

What is a prairie?

A prairie is a landscape dominated by grasses. They develop in areas too dry for forest and too wet for desert, usually occupying flat or rolling terrain, where the soil is organic and fertile. The annual rainfall is between 10-39 inches. Rainfall, however can be erratic with wet periods and times of drought. The open nature of a prairie has few obstacles for the wind, which also affects the local climate. Another important factor influencing prairies is fire, as many of the prairie species rely on fire to survive.

Parts of Indiana were once occupied by tall grass prairies, easily recognized by grasses growing over 3 feet high. Now only small fragments remain.



A brief history

Up until the 1820's millions of acres of America's heartland were blanketed with prairie, but with the arrival of European settlers the prairies soon started to disappear. French settlers used the word 'prairie' (meaning meadow) to describe these huge areas of grassland and often compared them to a sea of grass, a vast expanse of uniform grass swaying in the wind. They also recognized the potential of the dark, fertile soils. Within a matter of 50 years most of the prairie had been replaced by crops such as corn. Less than 1% of the original prairies now survive.

The European settlers were not the first people in the prairies. The Native Americans managed the prairies where huge herds of bison roamed. They depended on the land and the bison for their survival, so they managed the grasslands carefully.



Prairie plants

Prairies are dominated by a handful of grass species: big and little bluestem, Indian grass, switch grass and prairie cord grass are some of the most common. Big bluestem grows 3-6' high, but can sometimes reach 9 feet. It gets its name from the blue tinge at the base of the stems and is often called 'turkey foot' as the flowers resemble the feet of a wild turkey. Little bluestem is a shorter grass, with small flowers scattered along the plant stalks. Indian grass, grows to 7' in height and can easily be recognized by its feather-like flowers. Prairie cord grass grows in wet prairies and the sharply toothed leaves earn it the rather gruesome name 'ripgut.'

Among the grasses are the 'forbs', herbaceous flowering plants, with legumes (pea-like) and composites (daisy-like) being the dominant families. The plants of the prairie bloom at different times of year, so throughout the spring and summer there are always flowers to be seen. Asters in a range of colors and coneflowers are common forbs visible.



Prairie animals

Due to the destruction of prairies many of the animals associated with the habitat are no longer present. The prairie chicken, a distinctive bird of the prairie can no longer be found in Indiana. The larger grazing species, such as white-tailed deer, are more versatile, and are still present in other habitats such as wetlands. Some of the smaller prairie species, like grasshopper and vesper sparrows can still be seen here at Potato Creek State Park.



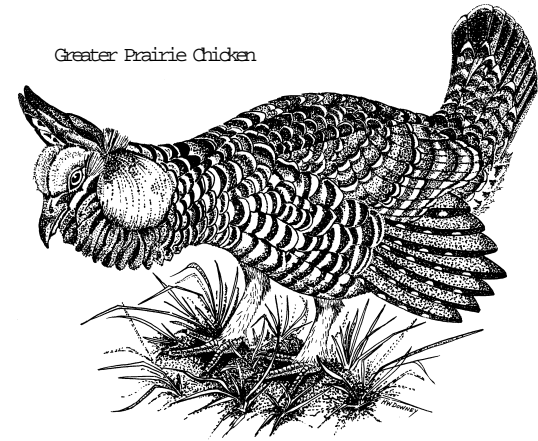
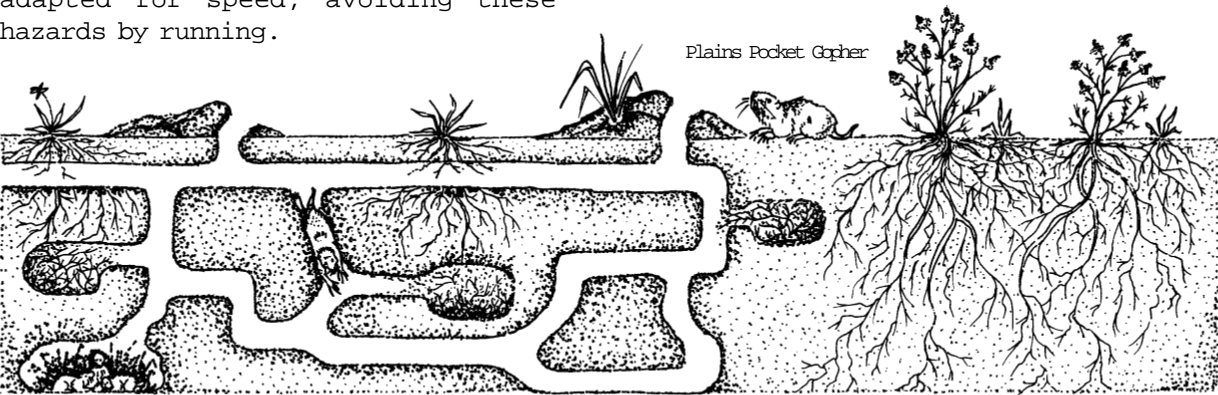
Adaptations

Plants and animals have had to adapt to the harsh conditions of the prairie, such as fire, extreme heat and cold, wind and drought.

The most common way the plants combat these conditions is with a deep fibrous, root system: two thirds of the plant can be underground. This is advantageous as most of the food reserves and underground buds are protected from the extremes above the surface, so after a fire the plants can quickly reestablish themselves. The fibrous roots also gather the limited moisture in the soil.

Many of the plants in the prairie are perennials, keeping their position from year to year. The thick mat of plant growth on the prairie floor prevents seeds from establishing themselves, so the plants reproduce by sending out shoots, thus ensuring an individual plant's survival for many years.

The main problem for animals is the lack of protective cover from fire, predators and climatic extremes. Many of the animals, like the plains pocket gopher, burrow. Others, like the cottontail are adapted for speed, avoiding these hazards by running.



Why reintroduce prairies?

Prairie was once a widespread habitat in Indiana. When it disappeared, many of the native animals also declined and some like the bison and prairie chicken can no longer be found in Indiana. By reestablishing and protecting prairies we hope some of these species will benefit.

The earliest records we have show that most of Potato Creek was originally wet prairie. We hope through planting prairie seed and careful management we can return this disappearing natural habitat to the park.

Management

Prairies were originally influenced by natural fires and grazing bison and elk. Natural fires can no longer be allowed to burn, the threat to buildings etc. is too great, and the large grazing animals have gone so the prairies have to be managed. If they were not, weeds and trees that cannot tolerate fire and grazing would invade and the prairie plants would disappear. Burning can actually increase productivity of the prairie, nutrients are released, and the dark soil warms up quickly in spring, allowing plants to start growing early in the year.



At Potato Creek controlled burning takes place every few years. The fire can burn very hot, up to 400°F, but it also burns very fast and as the soil is a good insulator, temperatures below the surface rarely change. Some areas are always left out during a burn to allow insect eggs and larva to survive.

Prairie Ecosystems



Potato Creek State Park

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